

क्षेत्रीय सेना उड़न-योग्यता केन्द्र (नासिक)

भारत सरकार, रक्षा मंत्रालय

रक्षा अनुसंधान तथा विकास संगठन

द्वारा एच ए एल (नासिक)

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RCMA (NASIK)

REGIONAL CENTRE FOR MILITARY

AIRWORTHINESS (NASIK)

GOVT OF INDIA, MINISTRY OF DEFENCE
DEFENCE R&D ORGANISATION

C/o HAL (Nasik)

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संदर्भ सं / Ref. No.: RCMA (NSK)/LoA- 127

दिनांक / Date: 24th Jun 2025

सेवा में / To

Executive Director
AURDC, HAL-Nasik
Ojhar: 422 207

**LETTER OF APPROVAL FOR INDIGENOUS GALVANIZED LOW CARBON STEEL
LOCKING WIRES GRADE IS 280-1972 AGAINST RUSSIAN GALVANIZED LOW
CARBON STEEL LOCKING WIRE AS PER GOST 792-67 (KO)**

References:

- HAL letter No. HAL-NK/AURDC/DI/4510/04/01A/2025/165, dated 29th Apr 2025.
- Type Approval -1495
- Form 29A, dated 26th Apr 2025

1. Introduction:

Indigenous Galvanized Low Carbon Steel Locking Wires Grade IS 280-1972 against Russian Galvanized Low Carbon Steel Locking Wires Grade KO Type as per GOST 792-67 of Dia 0.50 mm to 5.00 mm is used For locking certain constituents of Aircraft e.g. Central and RH & LH Handle for Ejection Seat, Ejection Seat Gun Locking, Canopy Ejection Handle, Emergency Pneumatic Brake Handle in the cockpit, Emergency Switches in the Central Control Panel, Emergency Oxygen and Fire Extinguisher Operation, Seat Parachute Opening, Brake Parachute Door Opening etc.

2. Integration and Configuration:

- Form 29A
- Form 29B Type Approval Data Sheet (TADS).
- Form 29C Type Record of Airborne Stores.
- Form 12 Design Certificate

3. Acceptance:

Indigenous Galvanized Low Carbon Steel Locking Wires Grade IS 280-1972 against Russian Galvanized Low Carbon Steel Locking Wires Grade KO Type as per GOST 792-67 of Dia 0.50 mm to 5.00 mm has been developed & manufactured by **M/s Bharat Wires Ropes, Mumbai** is hereby approved for use on Su-30MKI aircraft.

3.1 Basis of Acceptance:

- a. Technical Specification No. IS 280-1972 and GOST 792-67
- b. Test report co-ordinated by DGAQA (N) vide No. BWR/027/22, dated 24th Mar 2022 for dia 2.0mm
- c. Test report co-ordinated by DGAQA (N) vide No. BWR/073/23, dated 17th Oct 2023 for dia. 2.0 mm
- d. Test report co-ordinated by DGAQA (N) vide No. BWR/074/23, dated 17th Oct 2023 for dia 0.8 mm
- e. Test report co-ordinated by DGAQA (N) vide No. BWR/040/23, dated 20th Jun 2023 for dia. 0.5 mm.
- f. Compliance statement by AURDC, HAL (ND).
- g. Type Approval No. TA-1495.
- h. Form 29A Application for Issue of LoA.
- i. Form 29B Type Approval Data Sheet (TADS).
- j. Form 29C Type Record of Airborne Stores.
- k. ACBS vide No. ACBS/12KH18N10T/CEMILAC/5070/TA-1494, dated 29th Apr 2025.

4. Limitation/Condition of Usage:

- | | |
|--|--|
| a. Heat Treatment | : As per OEM specification/standards |
| b. Fabrication of components & Plating | : As per OEM technology |
| c. Storage condition | : Same as OEM or recommended by developer / manufacturer |
| d. Life of components | : Same as OEM |

5. Conditions for Approval:

- a. The parts manufactured indigenously should be suitably identified and life assigned may be endorsed accordingly in certificates.
- b. Quality checks in respect of the indigenously developed items are to be carried out as per Inspection standard defined by Quality control department in consultation with DGAQA (N), C/o HAL-Nasik Division, Ojhar Township.
- c. This approval is Non-Transferable and valid for item developed and manufactured by **M/s Bharat Wires Ropes, Mumbai**.
- d. LoA is valid for a period of '**Ten Years**' from the date of issue of this letter. However, validity of approval will be further extended based on satisfactory feedback.
- e. This letter of Technical approval is issued as per guidelines issued vide DDPMAS IMTAR-21.
- d. No change in manufacturing/process/materials is allowed at any stage, without prior permission of this establishment.
- e. This clearance supersedes the clearance issued vide TA-1495.



Encl: Form 29C Type record

(डॉ बी एस मण्डलोई) वै-जी / (Dr BS MANDLOI) Sc-G
क्षेत्रीय निर्देशक / REGIONAL DIRECTOR

Distributions:

1. M/s Bharat Wires Ropes, Mumbai
2. ADG, DGAQA(N), Nashik
3. AOC, 11BRD, Nashik
4. CE(A), CEMILAC, Bangalore, (KAO: Director(Aircraft) and Director(Mat & PI))

**TYPE RECORD COMPLIANCE STATEMENT GALVANIZED LOW CARBON STEEL
LOCKING WIRES GRADE IS 280-1972 AGAINST RUSSIAN GALVANIZED LOW
CARBON STEEL LOCKING WIRE AS PER GOST 792-67 (KO)**

Subject of Nomenclature	Galvanised Low Carbon Steel (LCS) Locking Wire as per GOST 792 -67 (KO Type) or IS: 280/1972, Dia 0.5 mm to 3.00 mm
Manufactured by	M/s. Bharat Wire Ropes Ltd. 524/526, The Corporate Centre, Nirmal Lifestyle Mall, L.B.S. Marg, Mulund (West), Mumbai 400 080.
Testing Agency	M/s. Bharat Wire Ropes Ltd., Mumbai M/s. Mukand Ltd, Thane
End Use of the item	MiG series and SU-30 A/c 1. For locking certain constituents of Aircraft e.g. Central and RH & LH Handle for Ejection Seat, Ejection Seat Gun Locking, Canopy Ejection Handle, Emergency Pneumatic Brake Handle in the cockpit, 2. 0.80 mm LCS Locking wire for wind Blast deflector of Ejection Seat on Su-30 MKI
Governing specification/Test Schedule No.	1. GOST 792-67 2. TTS/IND/MAT/052, Dt: 22/04/2010, 3. IS: 280/1972
Provisional Clearance No.	RCMA(NSK)/PC/1464, dated 29 th Dec 2009 & Amendment issued Ref. No. RCMA(NSK)/PC/1464/Amend-1, dated: 03 rd Mar 2010

SL No.	Name of the Test	Test Clause No.		Compliance status
		As per GOST 792-67	TS/IND/MAT/052	
1	Visual Examination	2.4	4.1	Complied
2	Diameter	1.2	4.2	Complied
3	Ovality	1.3	4.2	Complied
4	Tensile strength	2.2	4.4.1	Complied
5	180° Bend Test	Table 2	4.4.2	Complied
6	Torsion Test	Table 2	4.2.3	Complied
7	Electrical resistivity	2.7	----	Complied
8	Zinc Immersion test (Dip test)	Table 3	4.4.4	Complied
9	Chemical Composition	----	4.3	Complied



Rajeev Kumar
CM (D-Indg)
HAL (ND)



Amit Raut
Scientist-E
RCMA (Nasik)